

THE FIVE-TONE GAMELAN MUSIC OF BALI

By COLIN MCPHEE

SINCE the days of ancient China, ceremonial orchestras of tuned percussion instruments—bells, gongs, chimes of stone or jade, blocks, and drums—have continued to survive in one form or another in the Far East. In bas-reliefs of 12th-century Java and in the Kmer temple of Angkor of the same period, we find musicians striking gongs, gong-chimes, drums, and cymbals as dancers gesture or armies engage amid a shower of arrows. In Korea ritual music of early China is still played by the so-called imperial orchestra of bells and tuned stones. Through Sumatra, Borneo, and Celebes archaic gong music still sounds at festive events, while in the villages of Burma, Siam, and Indo-China, small ensembles of gongs, xylophones, and drums continue to furnish bright percussive music for traditional dance and theater.

But the real and perhaps final flowering of the percussion orchestra may be found today¹ in the almost legendary gamelans² of the courts of Java and the villages and temples of Hinduistic Bali. In these large resonant orchestras, composed of gong-chimes, metallophones of different sizes, drums, cymbals, and deep-pitched gongs, with a range from lowest to highest tone of six or seven octaves, an intricate art of sonority, filling the open air with golden, metallic sound, has been developed and perfected over a long period of time. The music itself, for the most part pentatonic, is elaborately polyphonic, spacious in outline, and constructed on forms that have balanced and mathematical proportions.

Just at what point the gamelan emerged from a small ensemble of gongs into the elaborately organized orchestra it is today is not known. But since in Bali the culture of pre-Islamic Java has been

¹ 1948. Although the author left the Indies in 1939, recent reports indicate that the situation has not greatly changed.

² *Gamelan*: Indonesian name for orchestra of gongs and other percussion instruments.

preserved almost intact, we may assume that gamelans not too different from those in use today were known during the time of Majapahit, the last great Hindu-Javanese dynasty, which came to an end in the 15th century.

In both Java and Bali ancient ceremonial gamelans have been carefully preserved for centuries, apparently intact. At the Javanese court of Djokja, the archaic *Gamelan Munggang*, honored as "heirloom gamelan" (*gamelan pusaka*), is played only on the most solemn occasions. In Bali a similar orchestra of gongs is still carried in ceremonial processions. These small ensembles, with their short *ostinato* forms, their stiff rhythms, their mathematically calculated alternation of gong tones, form the base for the elaborately constructed music of Java and Bali today.

The music of these two islands, however, demands separate study. Despite their close relation, they differ as night from day. Javanese gamelans have an incredibly soft, legato, velvet sound; the hammers and mallets that are used to strike the metallophones and gongs are padded so thickly as to eliminate all shock. Tempos are slow and stately, and there is little change in dynamics; the prevailing mood is one of untroubled calm and mystic serenity. Balinese music, on the other hand, is vigorous, rhythmic, explosive in quality; the gamelans sound bright and percussive; hard hammers of wood or horn are used for many instruments, and the thin clash of cymbals underlies every tone; only the great gongs are gently struck. While the classic calm of Javanese music and dance is never disturbed, music and dance in Bali is turbulent and dramatic, filled with contrast and bold effects. Javanese musicians find the music of Bali barbaric. Balinese complain that the music of Java "sends them to sleep".

The following pages are devoted to an account of music in Bali as I found it during the years I lived there before the war. I have limited myself to the most prevalent instrumental technique which serves as foundation for most Balinese musical styles. Vocal music demands separate study. The antique and rarely heard music constructed on a seven-tone scale system has also been purposely left out. The present study is concerned solely with the five-tone music of the pelog scale, the system from which has been created the widely varied repertory of music for ritual and dance, palace ceremony or village feast. I lived in a district of great musical activity, among musicians, dancers, actors, and scholars who came daily to my house

to pay a sociable call. It is from these friends that I gathered the material that is all too briefly summarized in these pages.

I

The village I lived in was small—a typically Indonesian communal society with its headman, board of elders, village priest, group of ceremonial dancers, and its two or three old-fashioned ceremonial gamelans, locked in the temple and taken out only for important feasts. Large Balinese villages in the crowded lowlands present a more complex system. Here the village is divided into wards, each with its set of temples, its gamelans, dramatic societies, and music clubs. While those gamelans needed for temple ritual may be village property, others may be privately owned by prince or Brahman priest. Today, however, most gamelans belong to clubs that specialize in one form or another of dance-drama, operetta, or music alone. These clubs are part functional, part recreational. Some meet frequently for sociable rehearsal; others lie dormant until the approach of a temple anniversary stirs them to life. Nearly all will contribute at some time to the festival program that may extend from three days to several weeks, transforming the village into a state of holiday each night.

Scattered over the island, in fields, by lakes, or on cliffs above the sea are innumerable temples which through the year stand silent and empty. But at its special anniversary feast each temple suddenly blossoms; for three days the gods are honored, and entertained with music, dances, and plays. Music furnishes appropriate background for dance and drama, fills the air with festive sound. It is a formal, abstract art, created for the occasion, and the composers are unknown. It is true that in the newer music there is a dramatic surging of crescendos and diminuendos, a constant changing of mood. But the contrasts are like sunlight and shadow; they are the expression of the purely physical exuberance of the group rather than the expression of any emotional tension.

While the temple is the center of gravity in the small village for unceasing activity in the arts and crafts, there is, or rather *was*, a second, equally important sphere of influence in the larger villages. This was the palace, the residence of important prince or lesser noble, where the elegant and formal art-forms of older Hindu-Javanese culture had been carefully kept alive.

The palace, with its large entourage of actors, dancers, and musicians, its metal workers and silversmiths, its painters, sculptors, and scholar-poets, was once a luminous cultural center. The prince himself was highly trained in the arts and crafts. Today a few Balinese princes still pride themselves on their traditional, stylized acting or dancing; they appear in historical plays or mask dramas, train their own actors and musicians. Not many palaces however keep up any semblance of their former splendor. In one or two courts imposing gamelans and large troupes of actors are still maintained, to perform on state occasions resounding ceremonial music and ancient, formalized dramas. But nearly all vital dance and musical activity now occurs *outside* the palace walls, among the countless clubs and societies of the villages. Yet the best trained dancers, the most brilliant music, the finest costumes and musical instruments are to be found in those villages that once came closest to the cultural influence of the palace.

Within the village are the *seka* or clubs, innumerable organizations large or small, serious or frivolous, from the group supervising the maintenance of the temple or ricefield irrigation to the club of palmwine drinkers or kite flyers. Along with these are the music, dance, and dramatic societies, some existing for purely ritualistic purposes, others for popular entertainment.

While groups whose function it is to supply special ritual music two or three times a year meet rarely, other clubs are filled with activity. The plain style of the older ceremonial music needs little rehearsal, but clubs specializing in more difficult techniques, especially if the music is to be coordinated with dance, meet twice a week for general practice, and will spend months of intense, nightly rehearsal in preparation for a coming feast.

Since music making is man's occupation in the natural division of labor, club membership is male and includes all ages, from the small boy enthusiast to the withdrawn elder who has not yet dropped out. Formerly all actor-dancers were male, boys taking the feminine roles; today young girls appear in plays and may even take romantic male leads, while small girls of seven are given a year's rigid training before appearing in the difficult and spectacular *légong* dance. Clubs are closely organized, with a clubhouse pavilion and a system of fines with ultimate expulsion for absence from rehearsal; successful clubs are profit-sharing, invest club funds in profitable ricefields or coconut groves. Most clubs, however, exist for the sheer pleasure of

creative activity; at a feast they are welcome guests, and while the members may be paid in cloth, paper umbrellas, or fowl, they rarely have a penny in the treasury.

Each club specializes in one particular form of music and dance. In the village of Klandis where I first lived; with a population of perhaps three thousand in its several combined wards, there were a dozen or more societies, including (among others) two small ensembles to accompany the shadowplay, two *légong* gamelans (one active, the other not) for various dances and plays, several clubs for different kinds of processional music, a ceremonial "gamelan of the great gongs"³ for big feasts and mask plays, a *kebyar*⁴ club, a *barong* or dragon⁵ society, the *jogéd*⁶ club, and two rival *arja* operetta⁷ companies. Each club had its special musical repertory. There are "gong compositions", "*légong* music", separate music for dragon, heroic mask-drama, warrior-drill dances, or shadowplay. So different is each style that Balinese can tell at once by the sound of distant music what kind of play or dance is taking place. And so closely identified with the characters of the plays are the different melodies and motifs that even a child knows by the cue music exactly who is about to emerge from the curtains onto the stage.

Balinese (and Javanese) music has been considered largely improvisational, like early jazz. Only in the *arja* operetta orchestra of flutes and percussion is this to some extent true. There is little room for improvisation in an ensemble where all parts are doubled or sounded in unison by a large group. Here music is firm in outline; figuration is worked out, "set" and practised at rehearsal. All must be known in advance and, in the case of dance or dramatic music, must coincide to the last sixteenth note with the dancer's movements. Only the soloist, in the less rhythmic, more lyrical passages is allowed a certain leeway of performance. But the first criticism of a Balinese musician in listening to a badly rehearsed gamelan is that the sound is *kurang trang*, lacking clarity.

³ The *gamelan gong gedé*.

⁴ See footnote 18.

⁵ Mythological beast of Buddhist origin, similar to the Chinese New Year lion.

⁶ Popular courtship dance performed by trained dancing girl and untrained male partners.

⁷ The *arja* operetta is a fairly modern form of theater, in which the leading characters sing their lines, the stories—some of Chinese, some of Islamic origin—are romantic, and the performances abound in comedy scenes and burlesque. *Arja* plays are closely related to popular Malayan singing plays.

No two clubs play alike. The temperament of the village and its musicians is clearly revealed at performance. While one club may play with brilliant and almost feverish intensity, causing the music to rise and fall in dramatic changes of dynamics, the club two villages away performs with cold precision or even apathy. Much depends on two or three leading spirits of the group, especially the first drum player, from whom the rest take all cues in tempo and dynamics. Clubs go through temperamental phases of enthusiasm and boredom. They may continue to give fine performances for years, or suddenly disband overnight through a decision that they have "had enough".

II

The instruments of a large gamelan are set out in careful order, arranged according to their function and sonorous value. Melodic instruments are placed in the center, surrounded by the instruments that play a condensed version of the melody. Instruments of deeper register are arranged at either side, while the high-pitched, brilliant figuration-instruments are placed near the back. Behind these are the two drums, the row of resonant gongs which punctuate the music with deep accents, and the group of cymbals that emphasize the rhythm of the drums.

Metallophones. Xylophone-type instruments with bronze keys form the backbone of the Balinese gamelan. Two distinct types are used—the *gangsā*, in which the keys rest above a wooden resonance box, and the *g'ndér*, in which the keys are suspended above tuned bamboo resonators. Two quite different timbres result. The *gangsā* tone is hard and metallic, ringing, but of short duration. The resonators to the keys of the *g'ndér* prolong the sound and enrich it, producing a sustained, musical tone. Both *gangsās* and *g'ndérs* are made in pairs, one of the pair tuned slightly higher than the other.⁸ This is done so that the instruments, struck in unison, will produce between them a vibrant tone, one that has pulsation and "throbs".

The *g'ndér* family includes four instruments of different size with five keys only, to sound the main tones of the melody, and the

⁸ The difference in tuning varies with the size of the instruments. Large pairs are tuned sometimes a $\frac{3}{4}$ tone apart, and produce a rich gonglike tone. The difference diminishes with the size of the instruments. This practice has nothing to do with the Chinese pairing of male and female instruments to create a chromatic scale. Balinese instruments are not made to enlarge the pentatonic scale, but to sound in unison. Separately they produce, in the words of Balinese musicians, a "thin, dead tone".

true *g'ndér*, with a range of two to three octaves for the extended melody. Depending on the type of gamelan, *gangsas* are used melodically or else perform the brilliant figuration that adorns all music for the dance.

Gongs. Suspended gongs of different sizes supply the elaborate metric accentuation so necessary in Balinese music. Small isolated gongs beat time or give secondary accentuation. Gong chimes, series of small gongs mounted in a horizontal row, extend over a range of two octaves. On the *trompong*, with its set of ten, solo melody is performed. On the *réyong*, which has twelve small gongs, four men perform together rapid figuration, each player controlling three gongs before him.

Xylophones. Orchestras composed entirely of xylophones substitute for the expensive ensembles of bronze in the popular *jogéd* street dance. Small ensembles of archaic bamboo xylophones are used to perform the special music played only during the rites of cremating the dead. In isolated parts of the island gamelans made up of instruments with tuned bamboo tubes for keys perform for various dances and festivities.

Flutes. Small bamboo flutes, with a four-, five-, or six-note scale are used for recreation, or accompany the voice in the *arja* operetta. Long bamboo bass flutes, with a seven-tone scale, are employed in groups of five or six in the orchestra for the traditional court theater or *gambuh*.

Rebab. The two-stringed spike fiddle, with a Persian-Arabic name but of Southern Chinese origin, was formerly used in many gamelans. Today it is seldom heard outside of the music for the *gambuh* play.

Percussion. Antique cymbals are present in nearly all gamelans. In the ceremonial gamelan of the large gongs they supply a six-part polyrhythmic background of almost overpowering resonance. Various types of small thin cymbals accompany the dance. Small bell-rattles are occasionally used for additional color.

Drums. Drums are slightly conical, held crosswise in the lap and played at each end with the hands or with drumsticks. They are used in pairs, a "male" and a "female", and create tightly interlocking rhythmic patterns. Large ten-foot drums still survive in remote parts, and are played alone during village feasts.



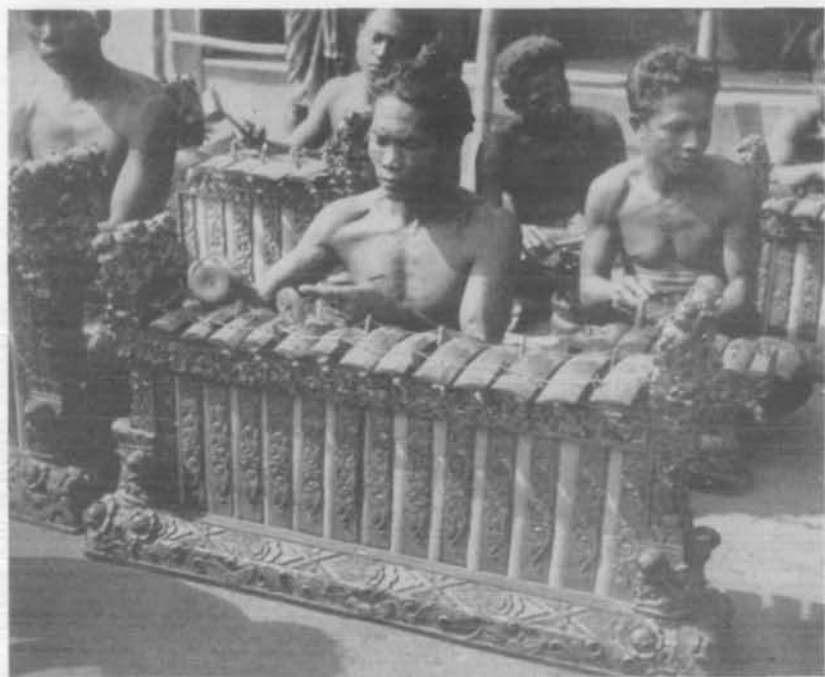
Ensemble for the *Arja* Singing Play



G'ndér Quartet for the Shadowplay



Old-Style *Réyongs*



G'ndér and *Gangsa*

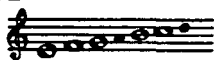
III

Balinese gamelans follow various scale systems. According to the character of the gamelan, instruments are constructed to sound, within the octave, a scale of four, five, six, or seven tones. Each scale is complete in itself, a wide or narrow tonal world with its own particular music. None of these scales follows Western tempered tuning.

These various scales can be divided into two markedly different systems of tuning, the one quasi diatonic, with distinguishable seconds and thirds, the other with seconds augmented, thirds diminished, so that to a stranger the scale sounds incredibly blurred and ambiguous. In Java these two systems are known respectively as *pelog* and *slendro*. The basic difference is this: while both scale structures are fundamentally pentatonic, the *pelog* system allows for two additional tones within the octave, while *slendro* is purely pentatonic, with intervals tending to equidistance. By far the greater part of Balinese music is cast in the *pelog* system. The *slendro* scale is heard only in music for the shadowplay. Both *pelog* and *slendro* scales, however, exist in curtailed, four-tone form, heard in archaic processional music and more "primitive" village gamelans.

Without considering for the moment the exact pitch of the tones, the basic scheme for the Balinese 5-tone *pelog* system, with its two extra tones, may be indicated as

Ex. 1



Yet in spite of its wider range, the full seven-tone form of *pelog* has never been popular in Bali. It is "foreign", "old style", too "difficult" to deal with. It survives chiefly in the ritual music of the *Gambang*⁹ and in the music of the court theater, with its orchestra of great flutes and percussion. Here the five-tone scale may be shifted to different degrees of the seven-tone scale, taking on certain "modal" changes. The system, however, creaks; musicians disagree in theory

⁹ Seven-tone xylophone ensemble, which can be seen as early as in 15th-century Javanese bas-reliefs.

and practice. When the music of the flutes is transposed to the seven-tone *Gamelan Semar Pegulingan*,¹⁰ there is no recognizable relation in scale formation.

In Balinese musical notation the five tones that compose the pentatonic scale, *pelog* or *slendro*, are represented by the symbols **1 2 3 4 5** which stand for the tones *ding*, *dong*, *déng*, *dūng*, and *dang*. (In Hindu-Balinese mystic writings these five tones are correlated with the gods of the five directions,¹¹ the five magic syllables, the five colors, etc.) The two accessory tones which may or may not be included in the *pelog* system have no other names than "the inserted" (*penyorog*) or the "false" (*peméro*), which in both function and relation to the head tones are similar to the *pien* tones of the Chinese pentatonic scales.

While no two gamelans are tuned exactly alike, and while considerable variation in interval-relation may take place, we may take as standard for our illustrations the tuning of the Gamelan Gong of the village Pliatan, a well maintained orchestra, tuned twice a year, and famous throughout the island.

Ex. 2



Each one of these tones can become the tonal center, the "tonic" of the composition, the tone on which it opens and closes, and which gives to the melody its special modal feeling. (There are, however, no names for these different modes, other than "*ambil dari ding*" "take it from *ding*", or whichever tone the music begins on.) Out of 27 long ceremonial compositions for large gamelan, six were found to begin and end on *ding*, eight on *dong*, six on *déng*, five on *dūng*, and three on *dang*. Occasionally there is a shift of tonal center during the music; a composition may begin with *ding* and end on *dong*; the following changes occur in my notes:

Ex. 3



But by far the greater number of compositions end on the tone on which they began.¹²

While Balinese literature contains, along with poetry, treatises on law, medicine, building, and special *dharma* or laws concerning the shadowplay and court theater, no writings that deal with the practice of music are known to exist. Only in fragments, surviving in the minds of musicians and scholars dispersed over the island, can a set of basic rules be said to exist at all. Once collected and assembled, however, the various methods reveal a definite system, one that has managed to survive almost entirely through oral tradition.

The rudimentary musical notation, like that of Java and China, can express neither rhythm nor polyphony; it is no more than the bare outline of the composition, and is rarely referred to.

In spite of the complex weaving of the different parts, a gamelan composition is essentially monolinear. It is in principle a number of variations on a basic theme, occurring simultaneously at different pitch levels. All can be referred to a simple melodic base compressed within the range of an octave. This is the *pokok gending*,¹³ the source- or root-tones from which everything else germinates. Thus the whole elaborate superstructure, while remaining idiomatically traditional, is fluid, and in a state of continual stylistic change, so that there are "old" styles, "dated" and "new" styles or orchestration and figuration. In principle, the method of procedure can be described as follows.

On the basic tones or *pokok* a more fluid melody is realized, extending over a range of two to three octaves. This melody is paraphrased in the octave above, while in the top register there is rapid, continuous figuration. The musical statement is punctuated by gongs of different sizes. Different systems of punctuation are used, depending on the metric structure of the music. Large gongs alternate in dividing the musical periods, while smaller gongs subdivide these periods into smaller units and half-units. The drums either scan the musical sentence with light, staccato strokes that alternate in different patterns with harsh, explosive accents, or, as in the case

¹² For a detailed discussion of the *pelog* and *slendro* scale systems, see Manfred F. Bukofzer, *The Evolution of Javanese Tone-Systems*, in *Papers Read at the International Congress of Musicology* [1939], American Musicological Society, New York, 1944, p. 241.

¹³ In Java these are the *balung gending*, the "bones" or "vertebrae" of the composition.

of dance and dramatic music, infuse it with warm, pulsating life. Cymbals reinforce the drums on important accents, and keep up a rhythmic undercurrent throughout.

Parts move at different speeds, the speed increasing as the instruments diminish in size and rise in pitch. A brilliant acoustic balance is achieved through the system as shown in the diagram below. Here can be seen the relative speeds of the different strata of sound extending, at different levels, through six octaves, from lowest gong to small metallophones.

figuration
paraphrase
melody
<i>pokok</i>
gongs	o o
	O

While all these parts fit together, like the mechanism of a watch, to form a tightly integrated whole, the actual musical substance can be reduced to two or three essentials. A dancer will require only three musicians as he learns and rehearses from beginning to end a new dance—one to play the melody, one to furnish basic gong punctuation, and a drummer for the rhythm. Without the drumming music "cannot live", or the dancer move a step, so closely are his gestures and movements involved with the patterns. The drummer is the link between the musicians and dancer; he is frequently both leader of the gamelan and teacher of the dancer whose progress he must always watch closely.

Not all gamelans follow this elaborate system of orchestration. Paraphrasing instruments may be left out; figuration may be eliminated or, on the other hand, may replace the melody entirely. In the *arja*, the popular romantic "opera", melody is sung by the dancers, small bamboo flutes supply a delicate figuration, while the rest of the small orchestra consists of a bamboo time-beater, a bamboo gong, drums, and antique cymbals. (See the illustration opposite p. 256.) In the archaic, sacred melodies of the *Gambang*, a small ensemble that plays only for the rites attending the cremation of the dead, the melody is played in octaves on a pair of metallophones, while polyrhythmic figuration accompaniment is performed by four large bamboo xylophones. Drums, cymbals, gong, so important in other music, here are absent entirely.

Whether sung, or performed by *rebab*, flute, *g'ndér*, or *trompong*, Balinese melody retains the same basic characteristics. The melodic line is free and spacious, rhythmically flexible, and with an average range of two octaves. Skips are rare; the melody proceeds by conjunct motion, filling in gaps between the more widely spaced tones with passing-notes, little graces, or runs. The nasal, stylized voice has an impersonal, instrumental quality, while the instruments translate into their own idiom the florid, flamenco-like arabesques of the singer.

The melodic line in the gamelan is clear and sharply defined when performed, solo, on the *trompong*. It may also be deliberately blurred in outline, if instead of a *trompong* a quartet of *g'ndérs* is employed. Now, each player embellishes the melody in his own way. The parts meet, separate, wander in opposite directions, meet again in free heterophony. A rich, weaving sound is the result; clashes that would sound unbearable if played by a body of strings are transparent and delicate when played on these chiming instruments. Even here, however, the general melodic direction is clear; important structural tones are sounded in unison, and each individual part, while apparently casual, is conceived in close relation to the *pokok* or basic tones of the composition.

The relationship between free melody and the basic tones of the composition, crowded within the range of an octave, is clearly illustrated by the broad, lyrical melody of the *trompong*. On the row of small gongs stretching out in a line before him, the player performs a stately resonant solo that rings high above the other instruments, supple in rhythm and ornate in style. In each hand the player holds a long thin stick, padded at the end; the melody is sounded sometimes in octaves, sometimes in unison, one stick alternating, tone by tone, with the other. The performance is almost an "act" as with wide, flamboyant gestures the player reaches out to strike the nobs of the farthest gongs with the tips of the sticks, or brings them close together to execute a lightning-swift flourish.

The style of playing depends entirely on the performer, on how he learned to play, and whether he comes from a palace environment or from a simple mountain village. Some parts of the island favor a style filled with syncopations and florid embellishments; in other parts the style is simple and direct, staying close to the basic melody sounded by the rest of the gamelan. Music in which the leading melody is carried by the *trompong* is not used for dance.

Apart from the slow tempo and different metric construction, it would be impossible to correlate the spontaneous performance of the soloist with the precise, rehearsed movements of the trained dancer.

All depends on the memory of the *trompong* player in these performances. Not only does he carry the melody throughout in a composition which may last a half-hour, but he must first introduce it to the musicians, fix it in their minds through an improvisational solo introduction. In the first part of this solo, the *sesendon*,¹⁴ he sets the tonality and general contour of the music that is to follow by freely improvising around the two or three central tones on which the composition is based. Gradually, his solo takes more definite shape and becomes recognizably thematic. The tempo changes from one of free recitative to something set and definite. This second phase of the introduction is the *pengawit*,¹⁵ the part that draws the musicians to attention. It is actually a thematic musical cue, a statement of the *closing* phrase of the composition about to follow; it is like using the last two lines of *America* as signal for a waiting chorus.

Thus assured of the particular composition about to follow (for there is no set program, no beforehand announcement of the name of the music to be played), the musicians enter on the opening note in loud, dramatic unison.

The cramped, colorless outline of the *pokok* or basic tones takes on meaning and purpose when seen in relation to the *trompong* melody. I quote first a brief example of a basic tone-series as performed in three-octave unison by all the five-keyed metallophones of the gamelan.

Ex. 4



The following melodic realization of these tones by the *trompong* was noted during performance. The section, complete in itself, is one of a set of concluding *ostinati* in the finale to a long

¹⁴ Free, unaccompanied song or instrumental melody. In an old Javanese writing the *sendon* is defined as "the soul of the composition".

¹⁵ From *ngawit*, held in readiness; *mengawit*, stand by; *kawitan!* begin! *Pengawit* can also mean a place where tigers lie in wait for prey.

ceremonial composition, performed on state occasions in temple or palace.

Ex. 5



The more animated *pengetjêt*¹⁶ or allegretto movement is filled with lively syncopation. One must hear the movement in full to appreciate the alert rhythmic impulse, the value of the artfully misplaced accents. Only a brief passage can be quoted here.

Ex. 6



The free rubato style of the *sesendon* or introduction stands in sharp contrast. The tempo there is relaxed; the soloist seems far away, lost in his improvisation. The tones that establish the mode are emphasized and embellished with rapid graces and ornamental turns that recall the ornate "flowers" and "ripples" in the voice of the trained singer.

Ex. 7



While the spacious, flowing style of the *trompong* projects with elegance, ringing out from temple or across valleys with metallic

¹⁶ *Ngetjêt*—the easy trotting pace of a coolie carrying a load. His burden hangs in two equal weights from the ends of a bamboo resting on his shoulder. The right pace causes the weights to bounce lightly, minimizing fatigue of the bearer.

clarity, the *g'ndér* style is delicate and intimate. There is no question here of solo performance; *g'ndérs* are used in pairs or quartets, performing the melody sometimes in unison, more often in free heterophony. A completely different motor impulse controls their style. While the *trompong* player uses fore- or full-arm in striking the gongs, the *g'ndér* player uses only wrist motion in playing, holding lightly in the fingers the little mallets with their wheel-shaped heads. These circular heads facilitate legato; the hand can turn over and with a rolling motion produce a series of shockless tones. The two hands of the performer play in octaves or wander in contrary motion. A pair of *g'ndérs* may perform the following passage all four hands in octaves, or break it up into four separate voices.

Ex 8



While this casual polyphony is partly improvisational, it can also be carefully worked out at rehearsals, "set" for future performances. The interplay becomes ingeniously involved. This is especially the case in the light, filigree music that accompanies the popular shadow-puppet plays. Here, to match the miniature scale of the performance, the gamelan is reduced to a quartet of slendro-tuned *g'ndérs*, one pair sounding an octave higher. No drums, gongs, or cymbals cover the delicate music; the quartet is complete in itself. Here intricate passages in four-part polyphony are ingeniously divided between the two leading *g'ndérs*, and doubled in the octave above by the second pair. An analysis of this special technique is a study in itself; the following excerpts will give some idea of the method.¹⁷ The upper staff represents first player, right and left hand, the lower the second player.

¹⁷ For a detailed study of this technique the reader is referred to the author's *Balinese Wayang Kulit and its Music*, in *Djawa*, 1936, No. 1.

Ex 9 *moderato legato*

In more lyrical passages, a kind of organum takes the place of plain unison melody. In the following example both upper and lower voices have the same melodic weight in their relation to the "tonic" or final tone.

Ex 10 *Lento*

We return to the *g'ndérs* in the large gamelan, and the relation between the pair of leading *g'ndérs* and the smaller pair that paraphrases their melody in the octave above. In the following example, which gives basic tones, melody, and paraphrase, each part is played in octaves throughout.

Ex 11



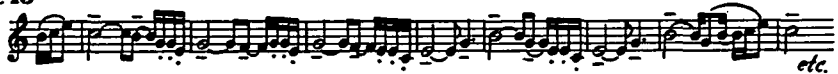
Sometimes the two paraphrasing instruments go separate ways, one playing a *paraphrase of the paraphrase* at double speed.

Ex 12



Not all gamelans use this intricate style. *G'ndérs* are never used together with the *trompong*. In those gamelans that specialize in the brilliant modern *kebyar* compositions,¹⁸ melody is performed in octaves by a large choir of metallophones. Here every detail, down to the last grace note, is determined in advance. There is no place for either unpremeditated solo or fluid heterophony. A melodic passage such as the following is practised until it sounds as though performed by a single instrument.

Ex 13



IV

For the innumerable plays, dances, and ceremonial events in palace, temple, or village there exists a wide variety of musical forms: *ostinati*, rondos, dance suites, extended ceremonial compositions in two movements, and more recently developed free fantasias—the *kebyar*. Music may be constructed so as to fit or follow a special dance. It may serve as dramatic background to a situation in the dance-play; there is special music for love scenes, battles, flights, while special themes or motifs introduce god or demon, prince or princess, dragon, magic bird, witch or priest. More often, the abstract, purely formal construction of the music controls the movements of the dancers and actors, whose last precise gesture is conceived in relation to the musical phrase.

¹⁸ Popular exhibition pieces, in free, rhapsodic style, performed at festivals; they may accompany the *kebyar* dance, an equally brilliant spectacle, performed by a youth or small boy seated, with the musicians around him on three sides.

Musical form is based on pre-existing formulas, some short and condensed, others extended and grandly scaled. Dramatic motifs that indicate characters may be brief four- or eight-tone *ostinati* which can be repeated at will until the actor has completed his entrance dance; long ceremonial compositions are composed of repeated sections which may each contain one hundred and twenty-eight basic tones played *largo*. All forms, short or long, are invariably four-square, composed of multiples of four-, eight-, or sixteen-note units. They may be described as "circular" in form; each returns to the opening note and repeats immediately, the end coinciding with a new beginning. Extended sections may be repeated only once or twice; the demands of the occasion determine the number of repetitions in shorter periods.

The basic metric structure of the composition is underlined by stress accents of different weight, supplied by gongs of different pitch—deep, medium, and high. These function in various systems of alternation; the basic principle, which in one form or another underlies all Balinese instrumental music, is clearly illustrated in the ceremonial compositions performed on state occasions by the gamelan of the great gongs. Here metric accentuation is supplied by three contrasting gong-types—the *gong agung* or "great" gong, the *kempur*, pitched an octave or tenth higher, and the *kempli*, small and sharply penetrating in sound. Their different stress values of heavy, medium, and light can be expressed $\square > \vee$. The basic pattern in which they alternate is one of $\square > \vee >$. For the deep accents, however, two large gongs are used, the *gong lanang* or "male" gong (\square), and the *gong wadon*, the "female" gong (\square), the male gong pitched somewhat higher than the female.¹⁹ These sound in alternation, and set up a secondary, *deeper* rhythm of their own.

$\square > \vee > \square > \vee > \square$ etc.

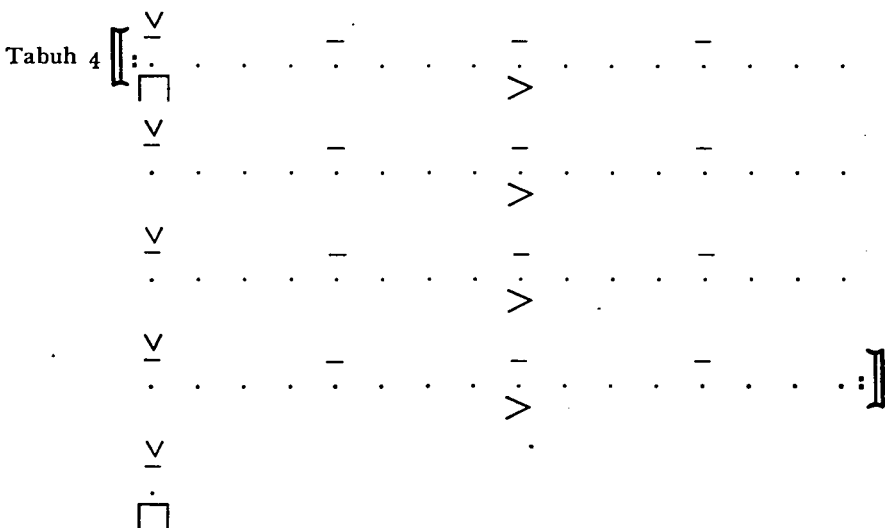
The ceremonial compositions, known as the *gending lambatan* or extended compositions, are constructed on a broad scale. They are meant to occupy wide intervals of time. They fill the air with sonorous music as in the temple priests officiate, or in the palace rajas receive important guests. Beginning with a solemn and slow first movement, they pass through successive phases of increasing animation, to end in a loud, short *ostinato*, repeated over and over above a rapid, *fortissimo* drumming.

¹⁹ The relationship varies; the two gongs differ in pitch by from a major seventh to a minor second.

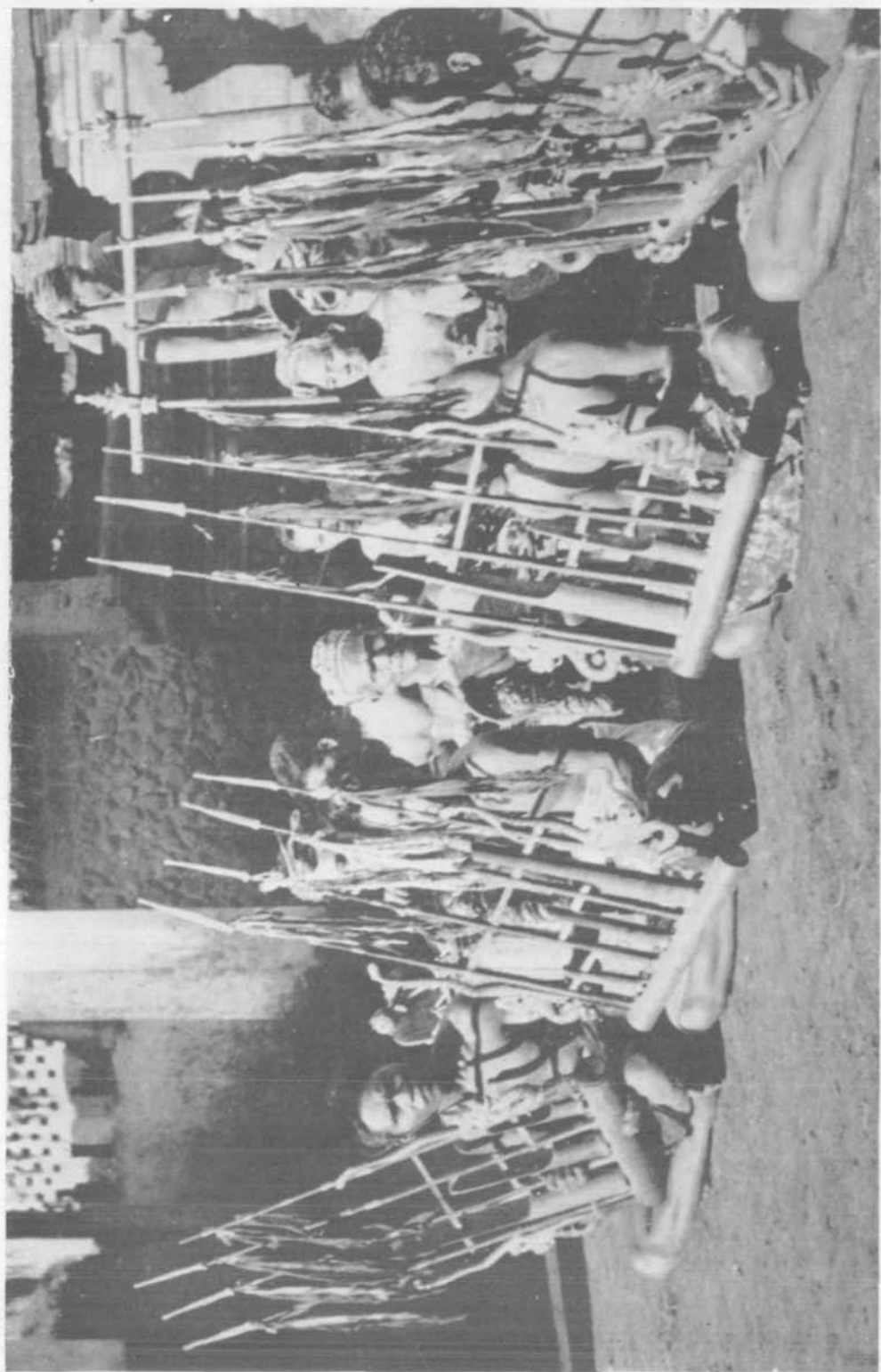
The first movement, the *pengawak* or "body", is made up of from one to eight units or *palets* of sixteen basic notes in length. The *palet* contains two main accents, a light one at the beginning, a heavier one in the middle, while in addition, each note in four is melodically stressed by the *jegogans* (—), deep-pitched metallophones of gonglike resonance.



The length of the *pengawak* depends on the number of *palets*, which may run from one to eight. Compositions are classified according to the number of *palets* within the *pengawak*; those that come under the general term *tabuh besik* or "the beat of one", contain one *palet*, one *kempli* accent, one *kempur* accent. *Tabuh kutus*, "the beat of eight", contains eight *palets*, eight sets of accents. Each period begins and ends with a heavy accent by one or the other of the great gongs. The complete statement, framed within these deep accents, is the *apada* or stanza. Thus, the metric scheme for *tabuh pat*, "the beat of four", can be seen below. *Tabuh kutus* would be twice as long.



The second movement, the *pengetjèt* or *animato*, is taut and metrically condensed. It passes through several phases, each phase a metrical contraction of the preceding; it is a slow, mathematically planned *accelerando*, leading to a thunderous ending—the climax

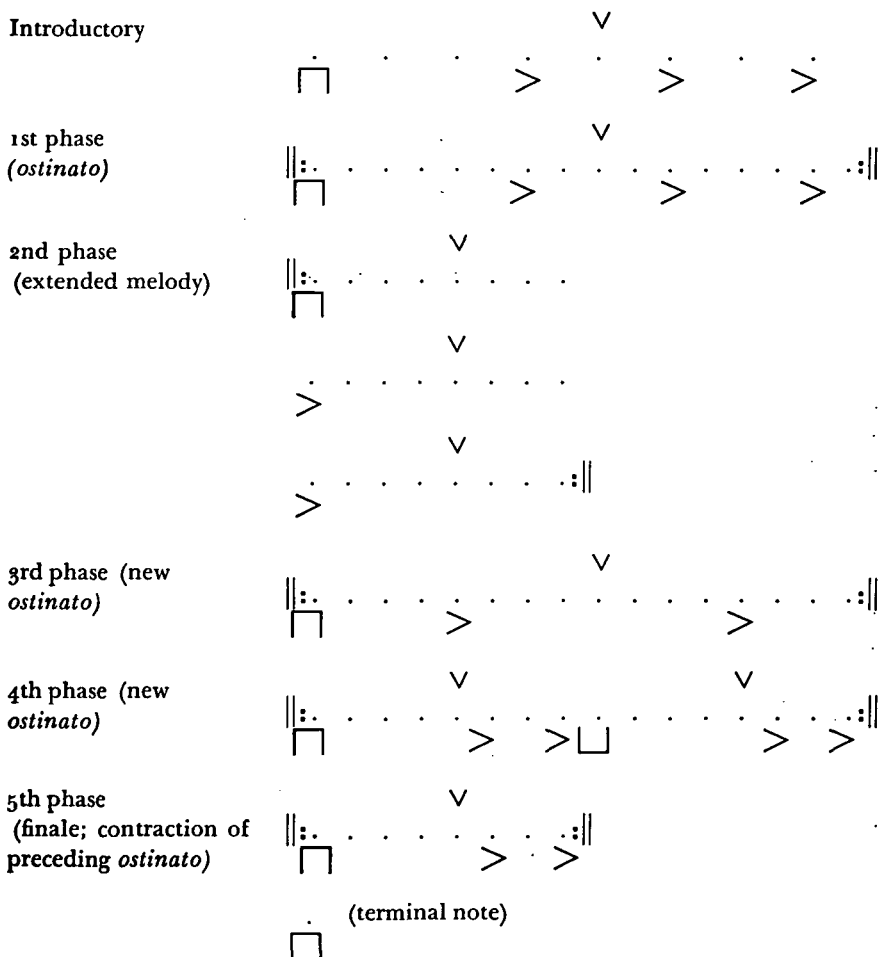


Angklungs



Trompong Soloist of the Gamelan Gong Gedé

of the slow but steady rise in tension. The metrical relation of the successive episodes can be seen in the following scheme.



There is no set rule for the construction of these second movements. Some may have a more extended melodic section; others omit this and skip to the third or fourth phase. All end, however, in the eight-note formula that marks the final stage.

Here, by means of *ostinati* that flow one out of the other, and the extended circular forms whose terminal note only marks a fresh commencement, the Oriental conception of timeless melody with neither beginning nor end is revealingly expressed. The beginning of the composition is no true beginning; in the free introduction that precedes it, the soloist gives the impression of picking up the

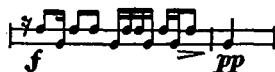
melodic outline from invisible musicians inaudible to all but himself, to hand it on to the musicians around him. The final tone, moreover, is not conclusive; it can mark one more return of the section. In the silence that follows the end of the performance, one has still the impression of the music continuing on in still another repeat.

V

Without the drums, the music is lifeless, lacks direction. Without them the dancer cannot move. The drums are "the heart of the music", "the blood running in the veins".

The pair of drums, male and female, which infuse life into the abstract, formal structure of the musical composition, have a double function. They supply an elaborate cross accentuation through alternating heavy accents produced by the drumsticks and a light interplay of filling-in tones produced by the hands and fingertips. They also control the changes in tempo and dynamics. In purely instrumental music these changes are slight; the drumming follows set formal patterns controlled by the metric form of the composition. In music for the dance, however, the two drums interlock in swift, intricate patterns; especially in dances that interpret a legend, or in the dance dramas with their different scenes and situations, tempos constantly change; the drums throb violently or fall to a calm, delicate staccato. They are in turn animated, restrained, inaudible, or dramatically heavy. They reflect with accuracy the mood of the scene, the character the actor is creating; they supply the impulse for the dancer's steps, gestures, least turn of the head. Yet, related as they are to the dancer, they are still more closely related to the music; even here they are an intensification of the basic metric structure. Patterns tend to become involved and syncopated at the approach of a stress accent within the phrase; the drumming becomes crowded with sharp, contrasting accents as the end of a section draws near. The strongest accent, however, is not on the closing tone but on the preceding "upbeat". It is on this accent that the dancer ends his movement in a final pose. On the closing tone, with its heavy accent, the dancer has already begun to relax.

Ex. 14



The two drums are pitched noticeably apart, the male higher in pitch than the female. In the gamelan of the great gongs the drums are tuned a second or minor third apart; the smaller drums of the *légong* dance gamelan are generally a fifth apart. Two main accents are produced from each drum—a natural, open tone and a stopped tone, produced by damping the left end of the drum as the right hand strikes the right end. The basic scheme for accentuation in the ceremonial music of the gamelan of the great gongs can be found in the following pattern. Male drum (*Lanang*) alternates with female (*Wadon*) for the heavy, main accents, while in between these, various types of filling-in strokes dovetail between the two drums. The cross indicates a stopped tone—a sharp, dry accent very different from the open tone.

(L) W L L $\overset{+}{W}$ L W L: (L) W L L $\overset{+}{W}$ L W L

(Some players prefer to omit the first male accent in the pattern.)

Seen in relation to the light and medium heavy accentuation of the *palet*, the stopped tone supplies an intermediary accent between the two.

$\overset{v}{(L)}$ W L L $\overset{+}{W}$ L W L: $\overset{>}{(L)}$ W L L $\overset{+}{W}$ L W L

The drumming in the *légong* dance gamelan is more complex. One formula for an extended section follows this scheme of basic accentuation, with intricate filling-in passages.

W W L W L L W W
L L L W W
L L W W
L L W L W L

Written out, with the filling-in tones, stopped tones, and light overtones (produced by striking the fingertips near the rim), the first two lines of the above scheme are performed in the following manner:

Ex 15



The variations of patterns based on the L W W L scheme are

endless. Special rhythmic formulas exist for the different character-types of the dance dramas. Lady-in-waiting, minister of state, prince, princess—each requires a different and characteristic style of drumming, swift and syncopated, or stately and elegant in its formal design. In the *gambuh* play, the traditional court theater, with its enormous cast of sixty or more characters, the drumming is said to be most difficult of all to learn, owing to the wide variety of patterns and metric formulas. Few musicians today know the complete repertory of music, and the correct method of drumming for each dance composition. The *gambuh* play, however, is now rarely performed; instead, the popular *arja* operetta, with its romantic stories and plaintive songs, has taken the place of the more archaic drama both at palace festivities and in the village.

VI

The brilliant, interlocking two-part figuration that is a unique feature in Balinese gamelan music is an ingenious and sophisticated elaboration of a primitive technique, in which a group of performers create rhythmic or melodic patterns by each man sounding in turn a single tone, so that a more or less unbroken continuity results. This technique, common to African pigmy music and medieval European singing, is known as *hocket*,²⁰ and occurs in one form or another in Africa, Latin America, India, and many parts of the Indonesian Archipelago.²¹

In Bali, *hocket* technique has formed the basis for an intricate polyrhythmic style. It survives in an archaic form in certain ritualistic ensembles, from which its gradual evolution can be traced. Stated in its simplest terms, this principle is best illustrated by the music of the *gamelan bonang*, a small ensemble of isolated gongs of different sizes which are carried in procession. Each player holds a single gong. The melodic pattern, a short motif repeated indefinitely, is confined to four small gongs, tuned to four tones of the pelog scale:

²⁰ The derivation by Farmer of *hocket* from the Arabic *iqd'ât*, meaning "rhythms", is well supported by Balinese practice. See *Music in the Middle Ages* by Gustave Reese, New York, 1940, p. 321.

²¹ Interesting examples of *hocket* technique can be found in the recordings of pigmy flute music, contained in the Dennis-Roosevelt Belgian Congo album (Reeves Sound Studios, N. Y.).

Ex 16



Expressed in time values, the hocket structure of the motif is clear:

Ex 17



More complicated, because of quicker tempo and more spacious patterns, is the technique of the *gamelan angklung*, now found only in remote districts. This small ensemble, also four-toned, but with *slendro* tuning,²² derives its name from the presence of a set of bamboo rattles, curious, archaic instruments tuned each to a single tone of the scale (see the illustration opposite p. 268). Each *angklung* is held by a separate player, who shakes it in his turn in the pattern. The result is a continuous tremolo figuration, deriving from the basic tones of the composition and constantly changing in pattern.

Ex 18



Fourteenth-century Javanese bas-reliefs indicate that gongs had already been mounted in pairs, each pair operated by a single player, like Balinese *réyongs* today (see illustration opposite p. 257). The rhythmic impulse now changes. Patterns begin to interlock. The

²² The four-tone scale, tuned in either *pelog* or *slendro*, and its relation to the five-tone forms of each, has never been studied. There is a large repertory of music, surprisingly varied, in the four-toned *slendro* system.

basic character of the hocket—one voice silent as another sounds—is now elaborated on by the frequent meeting of two opposing rhythms on the same beat to create resonant fifths, fourths, or occasional thirds.

Ex. 19



Once this technique is transferred to metallophones, it becomes something else again. Here, instead of being divided between right and left hands, each part is hammered out on metal keys by a mallet held in the right hand, while the fingers of the left hand swiftly dampen each preceding sound. A *third* part is sometimes added, "to bind the two parts together".

Ex. 20



It must be remembered that such passages, which may continue for sixty-four measures without a break, are performed by a *group*, two, four, or six players doubling on each part. They require the most acute rhythmic sense, the most precise group unity. Yet so deep-rooted is the instinct for such intricate coordination that even small boys will learn the technique almost overnight. Modern music clubs continually work out new formulas for figuration; all are variations of the hocket technique, which is apparently inexhaustible. Rippling passages that sound as though performed by a single player or group in unison invariably turn out to be created by the interplay of two opposing rhythmic currents.

Ex 21

as sounding: as performed:

These figuration patterns are recognized as separate formulas, each with its proper place, depending on the general musical style of the composition. Each has its special name to describe its nature and difficult to translate. They are frequently called the *kantilan*, the "flowers" of the music, a term that describes perfectly their relation to the *pokok* or "trunk" of the composition. These are the ornaments, the gilding of the music; like the rapid, quivering hands of the dancers they break up the long melodic line into brilliant particles, give it an inner rhythmic life of unbroken tension. As the tempo of modern Balinese music increases from year to year, the execution of these passages becomes an exhilarating *tour de force*. Clubs specializing in the newer music rehearse them nightly, going over the intricate spots again and again. Older Balinese still remember when these figuration patterns were limited to a narrow four-tone frame. Today, as they are performed on 9-keyed metallophones, these flower passages have acquired great fluidity and grace. More and more they tend to occupy the foreground; in the newest compositions they may even replace the melody entirely.

VII

Today, while traditional music considered necessary for ritual and ceremony is preserved and occasionally practised "in order that it isn't lost", music becomes more and more an absorbing pastime. For one ceremonial gamelan there are a dozen clubs that meet nightly for the pleasure of making music. These are the *kebyar* societies, whose members—boys and young men—devote themselves with enthusiasm to learning the brilliant and difficult modern compositions known as *kebyar*, fantastic exhibition pieces that are free in con-

struction and forever changing in mood and tempo. This is pure festival music, gay and glittering, intended for a large and carefree crowd. All emphasis is laid on virtuoso playing and new and surprising effects—more instruments, greater resonance, more complex figuration, unexpected antiphonal passages between the metallophone choir and the gongs, involved syncopated unison passages hammered out *fortissimo* with incredible swiftness and precision. The actual melodic material remains within the familiar five-tone pelog frame, and derives largely from the traditional compositions of the past.

Larger, more celebrated *kebyar* clubs pride themselves on their new compositions which, after privately rehearsing for months, they dramatically introduce to an admiring audience at some feast or competition of gamelans. As they are invited or engaged to appear in different villages, their new melodic adaptations and stylistic effects are eagerly listened to by local musicians, who in turn copy these as closely as possible at their own rehearsals. Musical styles change from year to year, as with our own swing bands; by the time the smaller clubs have mastered a certain technique or composition, it has already been discarded as *passé* by the club that presented it.

Leading clubs compose their own *kebyars*, trade them with other clubs, sell them to more obscure societies as they grow bored with them. Since they are not written down they must be taught, phrase by phrase, from figuration patterns to metric accents. Composing a *kebyar* is generally done at rehearsal; while shorter musical compositions may be the work of a single musician, the long, many-sectioned *kebyar* is often a group-composition, the leading musicians of the club collaborating. The music seems to grow of its own accord as, night after night, a new section is added or a new figuration pattern tried out. Anyone in the club is free to express an opinion; the figuration may be found too involved, a melodic section considered too long. Decisions are made: "repeat twice then go into the *cadenza*";²³ "better throw out this part entirely"; "cymbals out till next section!" The directions are strangely familiar. Bit by bit the piece is put together and criticized; once set, it will remain so, to be played exactly the same way, performance after performance. As for the melodic material—it may be taken directly out of the *légong*, *gambuh*, or shadowplay repertory; even ancient ritual

²³ *Cadenza* is used here for want of a better word, to indicate the free bravura unison passages for entire gamelan that link one lyrical section with the next.

melodies may be introduced if they serve the purpose. But many melodic episodes are new, the fresh creation of some musician, composed that morning in the calm of the empty clubhouse, to be remembered and tried out the same evening. Some of these melodies are of unbelievable charm and grace. Here Balinese imagination finds its truest musical expression. These lovely melodic parts are the flowers in the long, metallic compositions that lack the solidity and classic balance of construction in the old music.

Clubs with money enough to pay for a dance teacher and a wardrobe of brocade sarongs include a dancer in their company, to dramatize the music with brilliant gesture and add the final lustrous touch to a performance. The *kebyar* dance is performed by a youth or a small boy, seated in a small square with the musicians on all four sides. He dances from the waist up only, and great emphasis is laid on intricate hand movement and animated facial expression. The trailing sarong conceals his legs crossed beneath him, and from time to time he moves swiftly from one place to another in a curious hopping glide. Like the music, his mood is restless and continually changing, serene, vivacious, dramatic, seductive in turn. So closely do these moods match the music, so closely is gesture connected with the musical phrase and the rhythm of the drums, that the dancer is like another instrument of the gamelan. He is the music, made visible.

Kebyar means a sudden release of forces, an explosion, the crash of cymbals, "the bursting open of a flower". It aptly describes the modern musical style of Bali and its liberation from the formalism of the past. By 1939, when I left the island, it had become the rage, penetrating to the most remote mountain villages. Purists may lament this breakdown which means the end of traditional forms and their structural beauty. *Kebyar* is a popular art; like jazz, it is an intense form of musical expression in which young Balinese musicians of today put all their creative energy. It has that rarest of musical qualities—integrity. While Balinese pictorial art has been sentimentally nursed and corrupted by romantic Westerners, Balinese music is still something created for a Balinese audience alone, uncontaminated by foreign suggestion. One has only to listen to the modern hybrid musical styles of Java, Siam, the Philippines, Japan, with their appalling adaptations of Western melody and harmony, to realize how unique and precious a musical idiom like that of Bali is in the world today. Whether such music can survive the inevitable intrusion of radio is another question.

Gamelan Angklung

1. metallophones—*gangsa* type; 2. xylophone; 3. bamboo xylophone; 4. *angklungs*, 1st and 2nd players; 5. *angklungs*, 3rd and 4th players; 6. gong chimel, *réyong* type, 1st and 2nd players; 7. cymbals; 8. drums, 2 players; 9. large metallophones (top), gong (bottom).

Ceremonial Gamelan Gong, Old Style

1. metallophones—*gangs* type; 2. metallophones, *g'nder* type; 3. 4-note *réyong*, 1st and 2nd players; 4. gong chimes
—*trompong* soloist; 5. 6 and 7. punctuating gongs; 8. cym-
bals; 9. drums.

Ceremonial Gamelan Gong, Modern Style

The musical score is written for 11 staves, numbered 1 through 11. The notation is as follows:

- Staff 1: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 2: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 3: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 4: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 5: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 6: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 7: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 8: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 9: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 10: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.
- Staff 11: Treble clef, key signature of one flat (B-flat). It begins with a series of eighth notes, followed by a half note, and then a series of eighth notes.

1 and 2. metallophones—*gongsa* type; 3 and 4. metallophones—*gongsa* type; 5. gong chimel—*trumpet*; 6. gong chimel—*trumpet*; 7, 8 and 9. gongs; 10. small gong, muted; 11. drums and cymbals.

Gamelan *Pelégongan*—Used for the *Légong* Dance

1. large *g'nders*—basic melody; 6. metric gongs; 7. time-
beating gongs; 8. drums and cymbals.

1. and 2. metallophones—*gangsa* type; 3. metallophones—
paraphrasing *g'nders*; 4. metallophones—melodic *g'nders*;